Examiner's Amendment

1. An examiner's amendment to the record is attached. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Rick D. Nydegger (Reg. 28,651) On August 27, 2008.

3. In the claims:

- Please amend the claims as attached.

1. (Currently Amended) In a computing system for communicating messages in a message exchange pattern that defines whether a message is valid or invalid based on a current state of the message exchange pattern, a method for enforcing the message exchange pattern by restricting the transmission of invalid messages which do not conform to the current state of the message pattern, so as to preserve network bandwidth and processing resources, the method comprising:

storing a state transition tree for the message exchange pattern in which each node of the tree represents a state of the message exchange pattern and in which a transmission or a receipt of a message causes a state transition to an appropriate next node in the tree;

tracking progress through the message exchange pattern by performing the following,

at a current node in the state transition tree, detecting a request to transmit a message at the computing system;

detecting a request from a component at the computing system to transmit a message to a second computing system; and

loading state information related to the message exchange pattern from persistent memory to system memory in response to detecting a request to transmit the message to the second computing system;

based on the current state in the message exchange pattern, determining whether the request to transmit the message renders the message valid or invalid;

when the message is determined to be a valid message given the current node, transmitting the message, and then

updating the state information to represent the transmission of the message to the second computing system upon transmitting the message to the second computing system; ~~and~~

transitioning the node to the appropriate next node in the tree; and

saving the updated state information; and

when it is determined that the message is not a valid message to be sent given the current node in the tree, preventing the transmission of the message and notifying the component that the message is not a valid message.

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2. (Cancelled)

3. (Original) A method in accordance with Claim 1, wherein the message is a HyperText Transport Protocol (HTTP) message.

4. (Original) A method in accordance with Claim 1, wherein the message is a Simple Object Access Protocol (SOAP) message.

5. (Previously Presented) A method in accordance with Claim 4, wherein a type of message is specified in a SOAP header of the message, wherein determining whether the request to transmit the message renders the message valid or invalid comprises:
reading the SOAP header of the message.

6. (Original) A method in accordance with Claim 1, wherein the message is an RMI invocation.

7. (Currently Amended) A method in accordance with Claim 1, wherein the message is a first message, the method further comprises:

detecting a request from a component to transmit a second message to ~~a~~ the second computing system;

determining that the second message is a valid message based on the current state in the message exchange pattern; and

transmitting the second message to the second computing system.

8. (Currently Amended) A method in accordance with Claim 7, further comprising:

identifying a role of the computing system in the message exchange pattern, wherein ~~the act of~~ determining that the second message is a valid message is performed in light of the identified role.

9. (Cancelled)

10. (Previously Presented) A method in accordance with Claim 1, further comprising:
loading state information related to the message exchange pattern from persistent memory to system memory in response to detecting a request to transmit the first message to the second computing system.

11. (Previously Presented) A method in accordance with Claim 10, further comprising:
clearing system memory of the updated state information upon notifying the component that the message is not a valid message.

12. (Original) A method in accordance with Claim 1, wherein the message exchange pattern includes a plurality of application layer messages.

13. (Original) A method in accordance with Claim 12, wherein the message exchange pattern includes a plurality of protocol layer messages.

14. (Original) A method in accordance with Claim 1, wherein the message exchange pattern includes a plurality of protocol layer messages.

15. (Currently Amended) A method in accordance with Claim 1, wherein the message exchange pattern includes the transmission of one or more messages in which the message exchange pattern is identified and agreed to between ~~a~~ the computing system and the second computing system.

16. (Previously Presented) A method in accordance with Claim 1, further comprising:

identifying a role of the computing system in the message exchange pattern, wherein determining that the message is not a valid message is performed in light of the identified role.

17. (Previously Presented) A computer program product for use in computing system capable of communicating messages in a message exchange pattern that defines whether a message is valid or invalid based on a current state of the message pattern, the computer program product for performing a method for enforcing the message exchange pattern by restricting the transmission of invalid messages which do not conform to the current state of the message pattern so as to preserve network bandwidth and processing resources, the computer program product comprising one or more computer-readable storage media having thereon computer-executable instructions which, when executed by one or more processors of the computing system, cause the computing system to perform the method of claim 1.

18. (Cancelled)

19. (Currently Amended) A computer program product in accordance with Claim 17, wherein the one or more computer-readable storage media includes system memory.

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20. (Currently Amended) A computer program product in accordance with Claim 17, wherein the one or more computer-readable storage media includes persistent memory.

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21. (Original) A computer program product in accordance with Claim 20, wherein the persistent memory is a magnetic disk.

22. (Currently Amended) A computer program product in accordance with Claim 17, wherein a state transition from a first state to a second state, occurs upon the transmission or receipt of one or more valid messages for the first state.

Deleted: comprises:

23. (Original) A computer program product in accordance with Claim 17, wherein the message is a HyperText Transport Protocol (HTTP) message.

24. (Original) A computer program product in accordance with Claim 17, wherein the message is a Simple Object Access Protocol (SOAP) message.

25. (Previously Presented) A computer program product in accordance with Claim 24, wherein a type of message is specified in a SOAP header of the message, wherein determining whether the request to transmit the message renders the message valid or invalid comprises:

reading the SOAP header of the message.

26. (Original) A computer program product in accordance with Claim 17, wherein the message is an RMI invocation.

27. (Currently Amended) A computer program product in accordance with Claim 17, wherein the message is a first message, the method further comprising:

detecting a request from a component to transmit a second message to ~~a~~ the second computing system;

determining that the second message is a valid message based on the current state in the message exchange pattern; and

transmitting the second message to the second computing system.

28. (Currently Amended) A computer program product in accordance with Claim 27, wherein the one or more computer-readable storage media further have thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform:

identifying a role of the computing system in the message exchange pattern, wherein ~~the act of~~ determining that the second message is a valid message is performed in light of the identified role.

29. (Cancelled)

30. (Original) A computer program product in accordance with Claim 17, further comprising the following:

an act of loading state information related to the message exchange pattern from persistent memory to system memory in response to the act of detecting a request to transmit the first message to the second computing system.

31. (Original) A computer program product in accordance with Claim 30, further comprising the following:

an act of clearing system memory of the updated state information upon the act of notifying the component that the message is not a valid message.

32. (Previously Presented) A computer program product in accordance with Claim 17, wherein the one or more computer-readable storage media further have thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform:

an act of identifying a role of the computing system in the message exchange pattern, wherein determining whether the request to transmit the message renders the message valid or invalid is performed in light of the identified role.

33 – 36. (Cancelled)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YASIN M. BARQADLE whose telephone number is (571)272-3947. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yasin M Barqadle/

Primary Examiner, Art Unit 2153